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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|---------------------|------------------|
| 09/921,945 | 08/03/2001 | Jonathan R. Belk | 100.133US01 | 9187 |
| 7590 07/01/2005 | | | | |
| Fogg, Slifer & Polglaze, P.A. | | | | |
| P.O. Box 581009 | | | | |
| Minneapolis, MN 55458-1009 | | | | |
| | | EXAMINER | | |
| | | SHAH, CHIRAG G | | |
| | | ART UNIT | | |
| | | PAPER NUMBER | | |
| | | 2664 | | |

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,945

Applicant(s)

BELK ET AL.

Examiner

Chirag G. Shah

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-35 and 56-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-31, 36-40 and 42-55 is/are allowed.
- 6) ☒ Claim(s) 32, 35 and 56 is/are rejected.
- 7) ☒ Claim(s) 33, 34 and 57-60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The terminal disclaimer filed on 4/15/05 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent No(s) 6363073, 6157646, and 6721328 has been reviewed and is accepted. The terminal disclaimer has been recorded.
2. The terminal disclaimer overcomes the double patenting rejections claims 1-40 and 42-60, however, Examiner presents new art rejection for claims 32, 35 and 56.
3. Minor Informalities with respect to claims 13 and 14 have been reviewed and is accepted by the Examiner.
4. Amendment to the specification on page 10 and 12 with respect to changing the R'TS to RTS² have been reviewed and is accepted by the Examiner.
5. Applicant requested Examiner to initial and mark the IDS filed on April 4, 2003, however, no such copy of the IDS has been received in the Examiner's Docket for this application.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claim 32 rejected under 35 U.S.C. 102(b) as being anticipated by Upp et al. (U.S. Patent No. 5,608,731), hereinafter referred as Upp.

Regarding claim 32, Upp discloses in **fig. 2 and col. 3, lines 38-40** of a SRTS clock recovery apparatus and a method for service clock recovery, the method comprising:

removing (receiving) RTS values from data packets at the destination node **[Upp discloses in col. 3, lines 62 to col. 4, lines 3, of an incoming ATM cell RTS sample value and discloses in col. 5, lines 24-26 of successive RTS values being stored in the RTS FIFO 48 at the destination node of fig. 2];** and

using the removed RTS values over a plurality of time period to set the service clock for the destination node **[Upp discloses in col. 5, lines 24-37 and abstract, that every N local clock cycles (plurality of time period) an RTS is sent, and the received RTS values are compared to the local RTS values to provide a feedback error or control signal which is used to adjust the controllable clock generator such as a digitally controllable oscillator 37 in the destination node].**

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claim 56 rejected under 35 U.S.C. 102(e) as being anticipated by Jay et al. (U.S. Patent No. 6,400,683), hereinafter referred as Jay.

Regarding claim 56, Jay discloses in **fig. 5** of a method for adaptive clock recovery, the method comprising:

monitoring a buffer fill level for a plurality of time periods [**as illustrated in fig. 5 and disclosed in col. 2, lines 30-35, the fill level of the buffer is measured at the end of each successive observation period**];

identifying a relative maximum fill level during the plurality of time periods [**as illustrated in fig. 5 and disclosed in col. 6, lines 30-53; each successive observation period, the maximum fill occupancy level is identified**]; and

controlling frequency of a recovered clock signal based on the relative maximum fill levels for the plurality of time periods such that the recovered clock signal is substantially free of jitter [**as illustrated in fig. 5 and disclosed in col. 2, lines 30-40, the fill level of the buffer is measured at each time period and if the fill level is outside the predetermined threshold, the local clock frequency is either increased or decrease depending on whether it is the upper threshold or lower threshold that has been found to be exceeded**]. *Note: the adaptive clock method of fig. 5 based on buffer fill level at each time period and reverse correction operations as disclosed in col. 7, lines 15-17, minimizes/free the jitter since an adjustment to increase and decrease the local clock frequency is made to converge the local clock frequency towards the input frequency.*

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Upp et al. (U.S. Patent No. 5,608,731), hereinafter referred as Upp in view of Muntz et al (U.S. Patent No. 5,896,427), hereinafter referred as Muntz.

Regarding claim 35, Upp discloses in fig. 2 of a FIFO (buffer) 48 for receiving RTS values and the numeric difference between delta RTS values is used as a control for recovering local clock. *Upp, however fails to disclose of using the buffer fill levels to control the local service clock.* Muntz discloses in col. 9, section C and in fig. 5 of an adaptive clock recovery (ACR) destination module 500. Muntz further discloses in col. 10, lines 53-63 and col. 9, lines 60-64, that with the ACR destination module, a clock generation stage generates transmit clock at a frequency adjusted in accordance with the value of FIFO depth error establishing using that buffer fill levels control the service clock for optimization. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Upp to include buffer level monitoring as taught by Muntz. One is motivated as such in order to provide a constant bit rate service (Muntz, col. 4 lines 16-30).

Allowable Subject Matter

11. Claims 1-31, 36-40 and 42-55 allowed.
12. Claims 33-34 and 57-60 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703)305-3988, (for formal communications intended for entry)

Or:

(703)305-3988 (for informal or draft communications, please label "Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 6:45 to 4:15, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs

June 23, 2005

A handwritten signature in black ink, appearing to read "Chirag Shah", written in a cursive style.

Chirag Shah